

REMARKS

Applicants respectfully request reconsideration of this application as amended.

Claims 8-22 are pending. By this Amendment, Claims 9 and 16 have been amended to overcome the rejection under 35 U.S.C. § 112, second paragraph.

Entry of this Amendment is proper under 37 C.F.R. §1.116 since the Amendment: a) places the application in condition for allowance for the reasons discussed herein; b) does not raise any new issues requiring further search and/or consideration since the Amendment amplifies issues previously discussed throughout prosecution; c) does not present any additional claims without canceling a corresponding number of finally rejected claims; and d) places the application in better form for appeal, should an appeal be necessary. Entry of the Amendment is thus respectfully requested.

Claim 8 recites, *inter alia*, scanning and generating, for each expanded formula, Horn clauses to resolve in order to detect whether or not the formula is valid for each record. The Horn clauses expressing implications resolvent of the subformulas for each record scanned in positive clauses having a positive literal and in negative clauses having at least one negative literal. Claim 8 further recites storing the positive clauses in a stack of subformulas; storing, in a table of clauses, a representation of the negative clauses and the positive clauses, and resolving the table of clauses based on each positive clause encounter so as to generate either an output file or an action of the computer system.

Smaha is directed to a methodology similar to that discussed in Applicants' background discussed on page 1, lines 9-21, of the specification. As is readily apparent from Fig. 1 of Smaha, Smaha uses a specific process input mechanism 12 and a misuse engine that is a direct converter of received data into an output signal.

However, as previously discussed, while Smaha discloses system log file data 16 in a list of selected misuses, Smaha is entirely silent on whether specification formulas may be expanded into subformulas for each record of a log file; whether Horn clauses, having positive and negative clauses, may be generated for each expanded formula; whether a stack of subformulas, a table of clauses and a table of counters may be stored; and whether the table of clauses may be resolved, based on each positive clause, so as to generate either an output file or an action, as recited in independent Claims 8 and 15.

The Office Action points to Thuraisingham for the teaching of “a method for detecting security violations in a secure database wherein data and constraints are modeled into Horn clauses to process the security risk of the data and to obtain a conflict resolution.” The Office Action goes on to state “it will be obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Thuraisingham to the invention disclosed by Smaha. The motivation to combine enables the invention to utilize the consistency and completeness of Horn clause logic programs to determine the security threat as taught by Thuraisingham.”

Applicants would like to initially point out that Thuraisingham is entirely silent on whether Horn clauses, having positive and negative clauses, may be generated for each expanded formula; whether a stack of subformulas, a table of clauses and a table of counters may be stored; and whether the table of clauses may be resolved, based on each positive clause, so as to generate either an output file or an action, as recited in independent Claims 8 and 15.

It is well-established law that the initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is directed toward obvious subject matter,

either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper.

Since Schoning fails to overcome the deficiencies as noted above, not only do the references fail to teach or suggest each and every element, but Applicants respectfully submit that it cannot be said that the use of Horn clauses to articulate rules in a security framework including misuse engines which was that disclosed in Smaha is well known in the art. Moreover, a complete redesign and reconfiguration of Smaha would be necessary to use Horn clauses therein. Again, it is well-established law that the proposed modification or combination of the prior art cannot change the principle of operation of the prior art invention being modified. Since this is the case, the teachings of the references, taken either alone or in combination, are not sufficient to render the claims *prima facie* obvious.

Assuming *arguendo* that the teachings of the references were combinable, one would not end up with the features as recited in the independent claims. In relation to Claim 8, there is simply no teaching or suggestion in any of the cited references of the features of paragraph D. While the Office Action asserts that the technical features are disclosed on page 35 “algorithm to decide satisfiability” of Schoning, Applicants respectfully submit that this is not the case. In particular, there is no teaching or suggestion on page 35 of Schoning, nor any other portion of Schoning, of storing positive Horn clauses in a stack of subformulas, storing in a table of clauses a representation of the negative clauses and the positive clauses. Furthermore, there is

absolutely no teaching or suggestion of a table of counters for storing a number of negative literals in each negative clause.

Thus, a legal basis for supporting an obviousness-type rejection under 35 U.S.C. § 103 is not present. Specifically, there is no teaching or suggestion of each and every feature as set forth in the independent claims and, moreover, the motivation to combine the references is insufficient and contrary to well-established legal doctrines.

The Office is in essence asserting that it would be obvious to modify the teachings of Smaha based on the following progression of steps:

- 1) Without motivation, applying the teachings of Thuraisingham to Smaha to obtain step B of Claim 8;
- 2) Without motivation, utilizing the teachings of Schoning so as to find a way for assigning and translating data/constraints to Horn clauses;
- 3) Without motivation, applying the teachings of Schoning to Smaha to obtain step C;
- 4) Choosing the algorithms to decide satisfiability as mentioned on page 35 of Schoning;
- 5) Instructing a system for storing positive clauses in a stack of subformulas and a representation of the negative clause and a positive clause in a table of clauses without reference to any specific teaching in any cited reference;
- 6) Using a table of counters for storing a number of negative literals in each negative clause without reference to any teaching in any of the references;
- 7) Contrary to well established law, completely modifying and changing the principle operation of Smaha and generating either an output file or an action of the

computer system after resolving the table of clauses based on each positive clause;
and

8) Without any motivation or teaching, randomly selecting and iterating some of the steps until the scanning of all records in the log file is complete.

In that none of the cited references taken either alone or in combination teach or suggest each and every element of the independent claims and that, as Applicants respectfully submit, there is no motivation to combine the references that is legally supportable, the outstanding rejections are simply untenable and should be withdrawn. A Notice of Allowance is respectfully solicited. Should the Examiner believe that anything further is desirable in order to place the application in condition for allowance, the Examiner is respectfully requested to contact the Applicants' representative at telephone number listed below.

The Commissioner is hereby authorized to charge to deposit account number 50-1165 (T2153-906593) any fees under 37 CFR § 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

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